Video: High-resolution scanning in three dimensions

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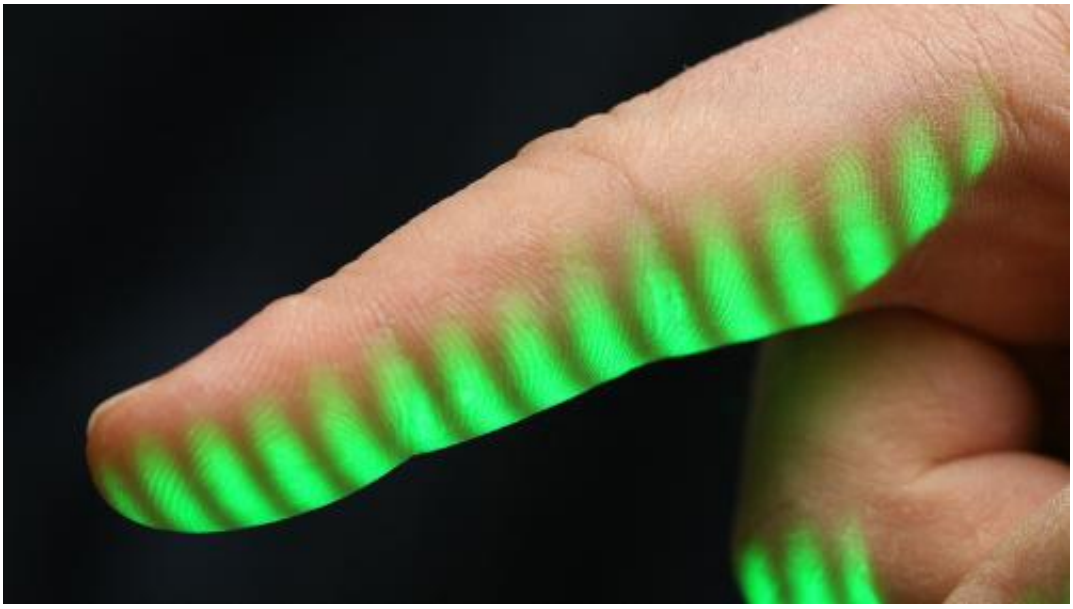

Larry Hassebrook is working on new ways of looking at things.

A professor of electrical and computer engineering at the University of Kentucky, and a faculty member of the Vis Center, Hassebrook's research is focused in the area of three-dimensional data acquisition and pattern recognition. One technique he uses frequently, called structured light illumination, uses projected patterns of stripes to create three-dimensional computer models.

"If you project patterns of light, kind of like a Venetian blind, onto an object and you look at it from a different angle, then you'll see those stripes become crooked," Hassebrook said. "That 'crookedness,' or distortion, we can actually mathematically convert to a three-dimensional surface."

Hassebrook's research has been used for finger, palm and full-hand three-dimensional scans for security and forensic applications. He also works closely with archaeologists to scan objects in remote environments, such as in the jungle or underwater. These include petroglyphs or sunken artifacts.

Provided by University of Kentucky